

US EPA ARCHIVE DOCUMENT

9 Linnell Circle
Billerica, Massachusetts
(the "Building")

Superfund Records Center
SITE: Wells G&H
BREAK: 11.9
OTHER: 460409

TERMINATION AGREEMENT

ORIGINAL
LEASE
DATA

LANDLORD: C&D/Billerica Trust

TENANT: W.R. Grace & Co., - Conn., a Connecticut corporation, successor in interest to Amicon Corporation

PREMISES: The building known as and numbered 9 Linnell Circle, Billerica, Massachusetts

LEASE
EXECUTION
DATE: January 4, 1984

TERMINATION
DATE: April 1, 1989

PREVIOUS
LEASE
AMENDMENTS: Undated commencement date addendum, and letter agreement dated January 8, 1984

WHEREAS, Tenant desires to terminate the term of the lease prior to April 1, 1989.

WHEREAS, Landlord is willing to agree to an early termination of the term of the lease on the terms and conditions hereinafter set forth;

NOW THEREFORE, the parties hereby agree that the above-referenced lease, as previously amended, ("the Lease") is hereby further amended as follows:

1. TERMINATION OF TERM OF LEASE

The term of the Lease is hereby terminated effective as of September 30, 1988 (the Effective Termination Date). On or before said Effective Termination Date, Tenant shall vacate the premises and deliver the premises to Landlord in the condition in which Tenant is required, pursuant to the Lease (including, without limitation, Article 22 thereof), to deliver the premises at the expiration or prior termination of the term of the Lease, except as otherwise hereinafter provided. Rent due under the

mc
218
BIL-1-E



REPORT OF
SITE INVESTIGATIONS
OF THE FORMER
AMICON POLYMER PRODUCTS
DIVISION FACILITY
9 Linnell Circle
Billerica, Massachusetts

Prepared for
Emerson and Cuming, Inc.
Woburn, Massachusetts


Richard L. Kraybill
Project Director


for Alison L. Dunn
Project Manager

BILLERICA -
INCLUDE ENTIRE
DOC?


Jeffrey S. Hansen
Assistant Project Scientist II

W.O. #3710-02-01

Prepared by
Roy F. Weston, Inc.
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Concord, New Hampshire 03301

September 1988



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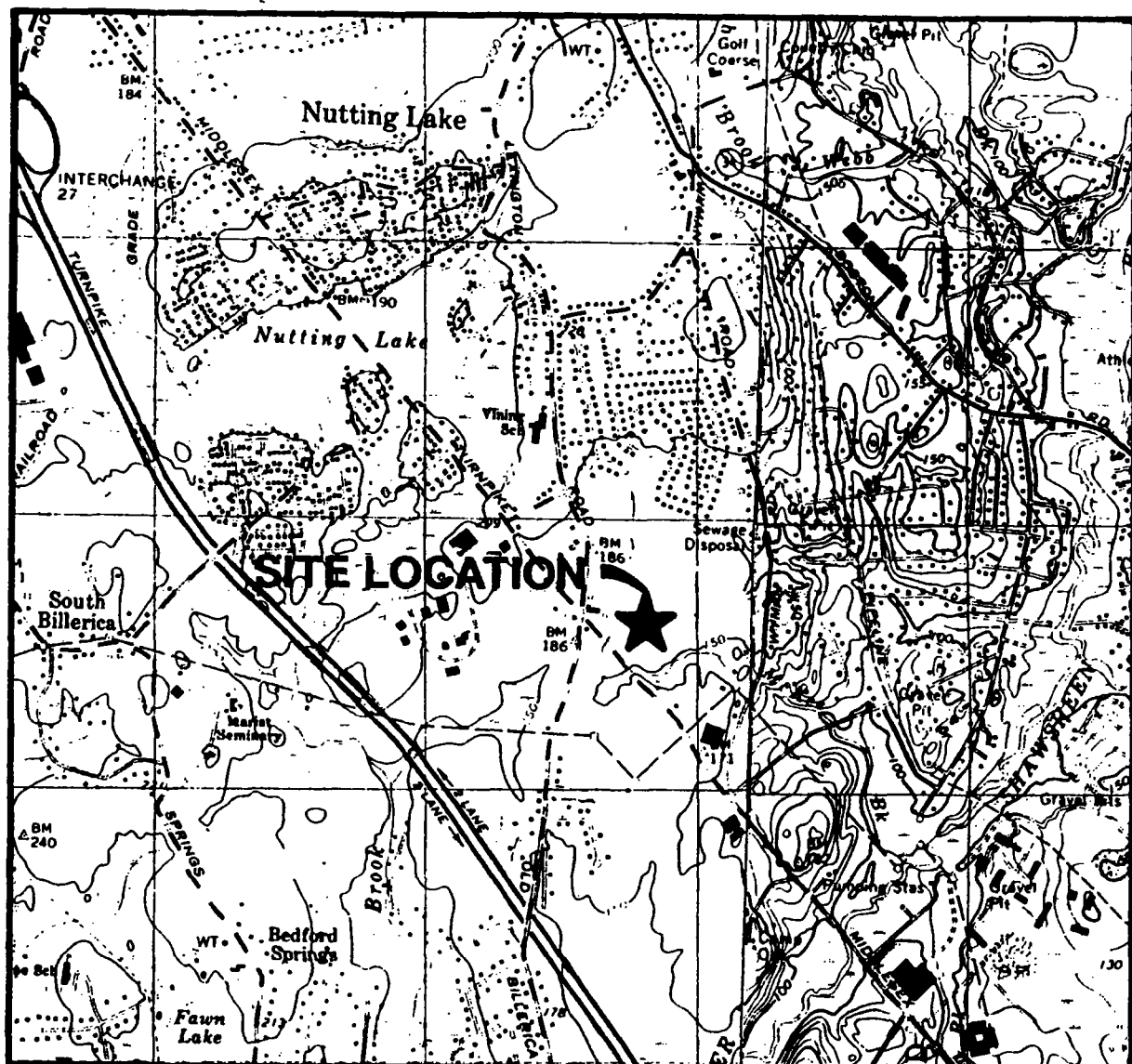
SECTION ONE

INTRODUCTION

Roy F. Weston, Inc. (WESTON) was retained by Emerson and Cuming, Inc. of Woburn, Massachusetts to perform a fast-tracked site investigation at a property located at 9 Linnell Circle in Billerica, Middlesex County, Massachusetts (Plate 97, Lot 111 of the Billerica Assessors Map). The property is located approximately one mile southeast of Nutting Lake and east of the Middlesex Turnpike (Figure 1). The site investigation was performed at the request of Emerson and Cuming, Inc. to evaluate the likelihood that operations by Amicon Corporation had resulted in significant environmental impacts relating to oil or hazardous waste disposal on the property consistent with the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, Massachusetts General Laws (MGL), Chapter 21E. The scope of work performed by WESTON, as outlined in the proposal letter submitted to Emerson and Cuming, Inc. on 22 July 1988 included the following tasks:

- Records review to develop a site history and to identify potential receptors and generators of oil or hazardous materials, and wastes, if any;
- Completion of eight (8) soil borings advanced to the water table or refusal, whichever is shallowest;
- Collection of soil samples during borehole drilling for field screening and laboratory analysis;
- Evaluation of laboratory analytical results to assess soil quality beneath the site;
- Preparation of a Report of Findings based on the work performed and results obtained from the above-outlined tasks.

The property, which was leased by Emerson and Cuming, Inc. from May 1984 to August 1988 is located within the Suburban Park Industrial Complex. The property is comprised of 1.66 acres and contains a 22,304 square foot building. Amicon-Polymer Products Division, (AMICON), which during a company reorganization became



NOTE:
THIS MAP TAKEN FROM 7.5' USGS-
BILLERICA, MASS. QUADRANGLE.

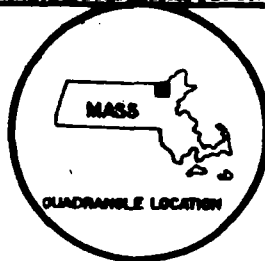


FIGURE 1
LOCATION MAP
EMERSON AND CUMING, INC.
9 LINNELL CIRCLE
BILLERICA, MASSACHUSETTS



a part of Emerson and Cuming, Inc., used the facility to manufacture conductive inks, coatings and adhesives used in the electronics industry. Amicon vacated the property in June 1986, when a consolidation of facilities resulted in excess space.



A records search was performed to develop information concerning past and present activities conducted on the property and general conditions of the surrounding area. In addition, a receptor analysis was performed to identify water users (i.e. groundwater supply wells and surface water intakes) or environmentally sensitive areas (i.e. wetlands) which could be impacted from oil, hazardous materials, or wastes disposed of on the property, if any. Data and information used in the records search and receptor analysis were obtained from the following sources:

- 4



- Review of reports available at the Massachusetts Department of Environmental Quality Engineering (DEQE) in Woburn, Massachusetts, and;
- Site inspections performed on 26 and 27 July and 4 August 1988.

In addition, the Billerica Water and Sewer Departments were contacted to identify properties serviced by municipal water and sewer.

2.1 RECORDS SEARCH

2.1.1 Deed and Tax Records

Deed and title records were researched at the Middlesex County Registry of Deeds to identify past and current owners of the property and to obtain information concerning activities conducted on the site. Review of the deed and title records indicate that the property now occupied by the Suburban Park Industrial Complex was conveyed by Joseph and Annie Martin, Sr. to Francois A. Comeau and Arthur L. Glynn, representatives of the Suburban Park Trust, by deed dated 21 May 1962 (Middlesex County Registry of Deeds, Book 1568, p. 294). Shortly thereafter, on 20 June 1962 the zoning for the property was changed from rural residential to the current industrial zoning status. Tax records from the Billerica assessors office confirm that the current zoning for the property is industrial. No evidence of past industrial uses or waste disposal on the property up to this time was found in the records available for review. On November 1977, the Suburban Park Trust obtained approval for a subdivision on the property (Registry of Deeds, Book 2279, p. 404). In March 1977, a one year permit was granted by the Billerica Conservation Commission to fill and regrade the property near the Old Middlesex Turnpike. According to Town Conservation Enforcement Officer Martin Houlne, most of the fill was obtained onsite. However, some clean gravel fill from local borrow areas was used. As the construction progressed, the permit was renewed (as recently as 1988) so that more of the property could be developed. Reportedly, (Martin Houlne) development was closely supervised by the town.

On 20 May 1981, Lot 111 (formerly Lot 5A) was conveyed by deed to Michael CoAngelo and Ed Darman of C and D Trust (Registry of



Deeds, Book 2479, p. 9). In 1983, the building formerly occupied by Amicon-Polymer Products Division was completed.

Information concerning utilities on the site and abutting properties were not available in the tax records. Therefore the Billerica Department of Public Works (DPW) was contacted to confirm properties serviced by municipal Water and Sewer Services. According to the Town Engineer, Mr. Ralph Bacon, most of the buildings along Linnell Circle including the former Amicon-Polymer building, are serviced with municipal water. A review of the distribution map, the Billerica Municipal Water System and billing records from the Water Department confirmed that properties along Linnell Circle including the Amicon property are serviced by the Billerica Municipal Water Supply. Arthur Malcurt, an employee of the Billerica PWD confirmed that to his knowledge all of the properties along Linnell Circle are connected with the Municipal Sewer System.

2.1.2 Aerial Photographs and Soils Information

Aerial photos available from the U.S. Department of Agriculture offices in Acton, Massachusetts including the Soil Conservation Service (SCS) were reviewed on 28 July 1988. Aerial photographs from 1965, 1977, and 1985 were available for examination and were reviewed to develop information concerning past and present site uses and activities. The aerial photograph from 1965 shows that Lot 111 was an open field, with no visible evidence of development. The surrounding property consisted of farmland and small wooded parcels of land which separated pastures and open fields. The photograph taken in 1977 shows some development along Suburban Park Drive from the Old Middlesex Turnpike. Linnell Circle had not been developed at this time although the Aotco Metals Finishing, Inc. (AOTCO) site immediately west of 9 Linnell Circle site is shown to be cleared of vegetation.

The 1985 aerial photograph shows industrial development along the entire length of Linnell Circle. Residences now existing along the north side of Linnell Circle are not shown on the 1985 photograph. The 1985 aerial photo shows the developed property at 9 Linnell Circle. No evidence of hazardous material storage or disposal was observed in the 1985 photograph of that property.



A review of the soils map for Billerica, Massachusetts showed that the soil on the property is the Ridgebury fine sandy loam. The Ridgebury series is a poorly drained soil with a moderate to rapid permeability, formed in glacial till. A perched watertable and hardpan layer may typically be present at a depth of 18 inches or more.

2.1.3 Site Inspection and Interviews

The property was inspected by WESTON personnel on 26 and 27 July and 4 August 1988. The information available from the site plan was confirmed by visual inspection and through interviews with Mr. Stephen Hynes and Mr. Brian Price. At present, the facility is vacant. The inspection and interviews confirmed that the building is serviced by municipal water and sewer connections. Both water and sewer lines are connected at the northeast wall of the building adjacent to Linnell Circle. There are no floor drains in the building, except in the restrooms. The building is heated with gas which is supplied by a line connected to the southeast side of the building. Ventilation is provided by three stacks which receive exhaust from the the laboratories, manufacturing, packaging and shipping areas. The ventilation system received final approval from the DEQE in a letter dated 12 July 1985. An environmental form for air quality control was not required since it was determined by the DEQE that emissions from the Amicon facility did not pose a significant threat to the environment (DEQE letter, 12 July 1985).

Based on interviews with Messrs. Brian Price and Stephen Hynes, and records available from the Billerica Fire Department, there are no known underground storage tanks on the property.

According to John Mertens, Director of Manufacturing for Emerson and Cuming, Inc. all waste generated from the manufacturing process conducted by Amicon was hauled by Pease and Curran, Inc. of Warwick, Rhode Island for reclamation of the silver used to manufacture Amicon's products. Other solid waste (i.e. paper and cardboard waste) was hauled offsite by a licensed waste hauler for disposal.

The property outside the building was inspected including all accessible areas abutting the property. Topographically, the property slopes towards the south from a relative elevation of



167 feet near the north corner of the property to 163 feet near the south corner of the property. No visual evidence of oil, hazardous material or waste disposal or spills was observed on the property. All of the property outside the facility is paved with the exception of a landscaped area between the building and Linnell Circle. A sprinkler system which parallels Linnell Circle provides water to the landscaped area during dry seasons. Drainage from the parking lot area and, presumably, the roof drains are received by a drainage easement at the southeast property boundary. This drainage easement discharges northerly under Linnell Circle to a wet area northeast of the property.

2.1.4 File Review with Public Agencies

In addition to the review of records described above, contacts were made with other public agencies, including the Town Health Department, the Town Conservation Commission, and the Massachusetts Department of Environmental Quality and Engineering (DEQE).

Files available from the Billerica Health Department did not contain any complaints or records of investigation concerning hazardous material or oil disposal for any properties located along Linnell Circle or Suburban Park Drive. The only complaint for the area contained in Health Department files were for a clogged sewer line near Linnell Circle (10 November 1986) and for groundwater seeping into the Aotco Metals Finishing, Inc. building located on Suburban Park Drive. Both complaints were addressed by the Health Department. Mr. Martin Houlne of the Billerica Conservation Commission was contacted for information concerning environmental impacts resulting from spills or disposal of hazardous material or oil on the site. He reported that to his knowledge, no complaints of oil or hazardous material spilled or disposed of on the property have ever been filed with the Conservation Commission.

The DEQE's List of Confirmed Waste Sites and Locations to be Investigated (14 June 1988) was reviewed for reference to the subject property or abutting properties. No references to the Amicon property were contained on the list. However, Aotco Metals Finishing, Inc., abutting the Amicon property to the northwest was listed as a confirmed hazardous waste site. Ms. Patricia Rodden, the DEQE Project Manager for the Aotco Metals Finishing Project, was contacted to gain information concerning



investigations performed at the Aotco Metals Finishing, Inc. site. She confirmed that a report of site investigations had been completed for Aotco Metals Finishing, Inc. and that groundwater samples were collected and analyzed. According to Ms. Rodden, up to 100 parts per million (ppm) of trichloroethylene had been encountered in groundwater samples collected from the monitor well network on the Aotco property. Currently, the DEQE is reviewing plans for pumping and treating contaminated groundwater at the site.

Reports entitled "Additional Site Investigations" and "Groundwater Data" performed by Aotco's Consultants, Gradient Corporation, were made available to WESTON for review from DEQE files. According to the Gradient Corporation report dated 11 September 1987, chlorinated volatile organic compounds (VOCs) were first reported in November 1985 as the result of an environmental site assessment performed on the Aotco Metals Finishing property. Additional groundwater quality data was collected and reported in the three Gradient Corporation Reports entitled "Geohydrologic Investigation Report, Aotco Metal Finishing, Inc., Billerica, Massachusetts" (July 1986), "Review and Evaluation of Groundwater Data, Aotco Metal Finishing, Inc., Billerica, Massachusetts," (March 1987), and "Additional Site Investigations Report", Aotco Metal Finishing, Inc., Billerica, Massachusetts (11 September 1987).

The most recent Gradient Corporation Report concluded that trichloroethylene and the 1,2-dichloroethylene isomer are the major contaminants present in the subsurface environment at the Aotco site. Other VOCs present in groundwater samples collected from the Aotco site included carbon disulfide, chloroform, 1,1-dichloroethene, 1,1-dichloroethane, ethylbenzene, tetrachloroethene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane, toluene, vinyl chloride, and xylenes. As previously stated, Aotco Metals Finishing, Inc., is currently being investigated by the DEQE as a potential source of VOC contamination in soil and groundwater.

2.2 Receptor Analysis

A receptor analysis was performed for the area surrounding the former Amicon property. The analysis was performed to identify water users (i.e. groundwater supply wells and surface water



intakes) or other environmentally sensitive areas (i.e. wetlands) that could be impacted by potential contaminants migrating from the site, if any. The analysis included an extensive area bounded by the Middlesex Turnpike to the Southwest, Lexington Road to the west, Boston Road to the east and the Bedford Town Line to the south. This area includes the Suburban Park Industrial Complex.

The Amicon property is located in the McKee Brook drainage basin discharging to the southeast to the Shawsheen River. Locally, the site is located within a subbasin of an unnamed, intermittent stream which flows to a "wet" area ultimately discharging to Little McKee Brook northeast of the site. The drainage easement east of the property is part of this drainage network and is the nearest surface water receptor. On two occasions, water in this drainage easement was observed to be clear and free of odors.

Previous investigations (Gradient Corporation, 1987) conducted near the site indicate that, locally, the area is underlain by dense deposits consisting predominantly of sand, silt and gravel having an average hydraulic conductivity of 5.17×10^{-5} cm/sec or 0.15 ft/day. Bedrock was encountered at a depth of 14.8 feet below ground surface in a boring (B-201) completed near the intersection of Suburban Park Drive and Linnell Circle (Gradient Corporation, 1987). The inferred regional groundwater flow direction based on the United States Geological Survey Topographic Map for Billerica, is southeast towards the Shawsheen River. However, local groundwater flow direction based on water level data collected by Gradient Corporation on 18 June 1987, reportedly exhibits a northwesterly flow direction (Gradient Corporation, 1987). (Differences between local and regional groundwater flow directions were not addressed by this report but may be due to localized differences in topographic and hydrogeologic influences).

Municipal water for the Town of Billerica is supplied by surface water intakes on the Concord River. The intakes are located behind the Town of Billerica Water Department on Route 3A approximately 3.5 miles northwest of the property. Based on a review of Water Department records, the water distribution map for Billerica, and an interview with Mr. Ralph Bacon, Town Engineer, properties along Linnell Circle and Suburban Park Drive, are serviced by the Municipal Water Supply.



Mr. Martin Houlne, Billerica Conservation Commission Enforcement Commission reported that the closest supply well is located at the O'Connor farm on Lexington Road southwest of the site. The nearest MDC wells are located in the Town of Bedford.

While leasing the property, Amicon-Polymer Products Division obtained an Industrial Wastewater Discharge Permit to discharge sanitary sewage to the Billerica Sanitary Sewer System, up to 1,000 gallons per day. No discharge of industrial wastewater was permitted or known to have occurred during operations (John Mertens).



SECTION THREE

FIELD METHODS

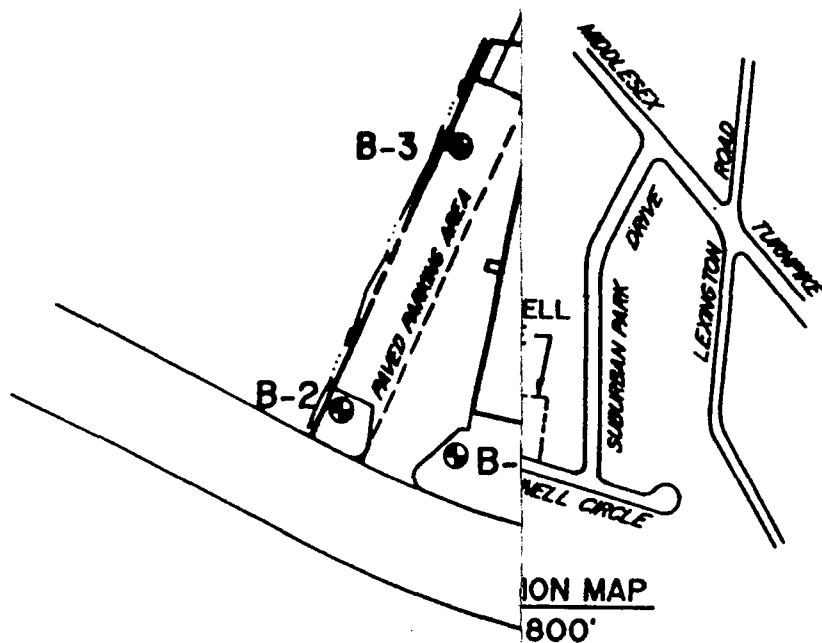
3.1 Drilling Effort

Eight borings referred to as B-1 through B-8 were completed at the site on 27 July, 1988 to evaluate subsurface soil conditions at the property. Prior to drilling, boring locations were established by WESTON with the approval of Emerson and Cuming, Inc. The borings were drilled by D.L. Maher, Inc. of North Reading, Massachusetts using an Ardco-mounted Mobile B-53 hollow-stem auger rig; the drilling was monitored by a WESTON geoscientist. The approximate boring locations are shown on Figure 2. The borings were completed to depths ranging from 6.5 feet below ground surface at B-5 to 13 feet below ground surface at B-6. Finished depths were based on hydrogeologic conditions encountered during drilling. During drilling, soil samples were collected at five foot intervals using a clean, two foot long stainless steel split-spoon sampler advanced by a 140 pound hammer free falling 30 inches. Soil samples were classified in the field according to macroscopic properties.

Detailed boring logs were compiled from the sediment samples and drill cuttings and are provided in Appendix A.

3.2 Sediment Sampling and Analysis

During drilling operations, sediment samples collected using the split-spoon sampler were screened for total volatile organic vapors (TVO) using an HNu PI-101 photoionization detector equipped with a 10.2 eV probe and a Century 128 Organic Vapor Analyzer (OVA). In addition, a portion of each sediment sample was mixed with distilled water for a 1:1 sediment to water ratio for pH and electrical conductivity measurements. Samples were agitated before measurements were taken in the water above the sediment. Based on readings obtained from the field screening effort, five sediment samples were submitted for laboratory analysis for priority pollutant volatile organic compounds on the U.S. EPA's Hazardous Substance List (HSL VOCs) and priority pollutant metals. In addition, a field blank and a trip blank were submitted for quality assurance/quality control (QA/QC).



LEGEND



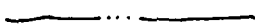
BORING LOCATION



PROPERTY BOUNDARY



EDGE OF PAVEMENT



DRAINAGE DITCH



EDGE DRAINAGE EASEMENT



SCALE
(IN FEET)

FIGURE 2
SITE MAP SHOWING
SOIL BORING LOCATIONS
EMERSON AND CUMING, INC.
9 LINNELL CIRCLE
BILLERICA, MASSACHUSETTS

NOTE:
 THIS MAP TAKEN FROM ASSESSORS MAP - BILLERICA,
 SUPPLIED BY THE TOWN OF BILLERICA.

WESTON
 ENGINEERS ARCHITECTS

NEW HAMPSHIRE

DRAWN	T.A.C.
SCALE	AS SHOWN
DATE	AUG 1988
WO. NO.	3710-02-01



purposes. All sediment samples were transferred to appropriate sampling containers using a clean stainless steel trowel. Samples were labeled, placed in a cooler, and transported to New England Chromachem, Inc. (NEC) in Salem, Massachusetts for laboratory analysis. The field blank water sample was obtained by collecting distilled water from the stainless steel trowel used to transfer sediment samples for the split-spoon sample to the appropriate sampling containers. Proper chain-of-custody procedures were observed during sample transportation delivery to NEC.



SECTION FOUR

FINDINGS

4.1 Site Hydrogeologic Conditions

Soil borings installed at the site confirmed that the Amicon property is underlain by unconsolidated glacial till deposits consisting of dense, poorly sorted fine to coarse sand, trace to little silt and trace to little gravel. Fill material consisting of loose fine to coarse sand with trace to little silt and little gravel was found to overlay till deposits encountered in borings B-1, B-3, B-6, and B-8. Fill thickness ranged between one foot in B-1 to 7 feet in B-3. A two to three foot thick deposit of humus consisting of fine sand, silt and organic matter was observed in the shallowest soil horizon in all borings except B-3, B-4, and B-6. At B-5, a 1.5 foot thick layer of peat was encountered from 3 to 4.5 feet below ground surface, confirming the previous existence of wet areas around the property.

Groundwater was encountered under unconfined conditions in all borings. Depth to water ranged from two feet below ground surface in B-3 to seven feet below ground surface in B-1 and B-7. Based on water level data collected by Gradient Corporation from the monitor well network on the Aotco Metal Finishing, Inc. property, local groundwater flow is interpreted to be towards the northwest to the unnamed tributary stream which flows in a southerly direction parallel to Suburban Park Drive. Soil moisture conditions noted during the borehole drilling effort are included on the boring logs provided in Appendix A.

4.2 Sediment Sampling Results

Field screening results of sediment samples collected during borehole drilling operations are summarized in Table 1. TVO's measured immediately after opening the split-spoon sampler using an HNu and an OVA. Only one HNu screening sample (B6/S2), collected at a depth of 4.5 to 6.5 feet, detected a measurable result (3 units measured as benzene). The OVA screening results ranged from background (0 ppm) to 300 ppm encountered in sample B6/S2. The OVA is more sensitive to certain hydrocarbons such as methane and lighter volatile organic compounds.

TABLE 1
SUMMARY OF FIELD SCREENING RESULTS
27 JULY 1988
AMICON PROPERTY
BILLERICA, MASSACHUSETTS

BORING NO.	SAMPLE NO.	DEPTH (feet)	TVO		SPECIFIC CONDUCTANCE (umhos/cm)	pH (std. units)
			MMu (units)	OVA (ppm)		
B-1	S-1	0 - 2	0	10	10	6.7
	S-2	4.5 - 6.5	0	50	10	6.8
	S-3	6.5 - 8.5	0	68	20	7.0
B-2	S-1	0 - 2	0	120	10	6.2
	S-2	4.5 - 6.5	0	9	30	6.8
B-3	S-1	0 - 2	0	0	10	7.7
	S-2	5 - 7	0	0	50	7.0
B-4	S-1	0 - 2	0	1.1	10	6.8
	S-2	5 - 7	0	0	10	6.8
B-5	S-1	0 - 2	0	6.5	10	7.0
	S-2	4.5 - 6.5	0	8	20	6.8
B-6	S-1	0 - 2	0	0.5	70	6.7
	S-2	4.5 - 6.5	3	300	20	5.3
B-7	S-1	0 - 2	0	31	20	7.0
	S-2	5 - 7	0	6	40	6.7
B-8	S-1	0 - 2	0	2.5	60	6.6
	S-2	4.5 - 6.5	0	18	40	6.7
	S-3	6.5 - 8.5	0	50	50	6.3

NOTES: TVO = Total Volatile Organic vapors in sample headspace
using an MMu and an OVA.

MMu = PI-101 photoionization detector equipped with a
10.2 eV probe and a span setting of 9.8.
Reported as units of total volatile organic vapors as
benzene.

OVA = Century 128 Organic Vapor Analyzer set at a span of
3.0. Reported as parts per million (ppm) as methane.

Specific conductance and pH measured using Omega probes.



Because there were no significant responses on the HNu, no conclusive correlation could be made between the HNu and OVA results.

Specific conductance and pH were measured in distilled water in contact with sediment samples collected from each split-spoon. Specific conductance measurements ranged from 10 umhos/cm in samples B-1/S-2, B-3/S-1, B-4 and B-5/S-1, up to 70 umhos/cm in B-6/S-1. Measurements of pH ranged from 5.3 units in B-6/S-2 to 7.7 units in B-3/S-1.

HSL VOCs were not detected in soil samples submitted for laboratory analysis from B-2/S-1, B-3/S-2, B-4/S-2 or B-8/S-2. The VOC trans-1,2-dichloroethylene was present at a nonquantifiable trace concentration less than the laboratory detection limit of 50 ug/kg (parts per billion) in sample B-6/S-2, collected from a depth of 4.5 to 6.5 feet below ground surface. No other VOC's were detected in the sample. HSL priority pollutant metals were within anticipated background concentrations with the exception of cadmium and antimony. Cadmium was detected at concentrations ranging from 2.38 mg/kg (parts per million) in B-6/S-2 and B-8/S-3 to 3.68 mg/kg in B-2/S-1. Antimony was detected in at concentrations ranging from 78.8 mg/kg in samples B-3/S-2 and B-6/S-2 up to 88.5 mg/kg in sample B-4/S-2. A list of typical background metals concentration in soil is provided in Table 2. Full laboratory reports of sediment analyses are compiled in Appendix B; analytical results are summarized in Table 3.

TABLE 2
TYPICAL BACKGROUND METALS
CONCENTRATIONS IN SOILS

ELEMENT	REFERENCE			
	FULLER	BOWEN	FRIBERG	USGS
Aluminum		10,000 - 300,000		700 - 10,000
Antimony		2 - 10		<1 - 8.8
Arsenic	1 - 50	0.1 - 4.0	40	0.1 - 73
Barium	100 - 5,000	100 - 3,000	1	10 - 1,500
Beryllium		0.1 - 40		<1 - 7
Cadmium	0.2	0.01 - 0.7	<1	
Calcium		7,000 - 500,000		100 - 28,000
Chromium	5 - 1,000	5 - 3,000	0 - 250	1 - 1,000
Cobalt		1 - 40		<0.3 - 70
Copper	2 - 100	2 - 100		<1 - 700
Iron		7,000 - 550,000		100 - 100,000
Lead	2 - 200	2 - 200	2 - 200	<10 - 300
Magnesium		600 - 6,000		50 - >50,000
Manganese		100 - 4,000		<2 - 7,000
Mercury	0.02 - 0.2	0.01 - 0.3		0.01 - 3.4
Nickel	5 - 500	10 - 10,000		<10 - 300
Potassium		400 - 300,000		50 - 37,000
Selenium		10 - 25	0.1 - 10	0.1 - 3.9
Silver		0.01 - 5	0 - 50	0.1 - 73
Sodium		750 - 750,000		500 - 15,000
Thallium		1,000 - 10,000		70 - 15,000
Vanadium		20 - 300		<7 - 300
Zinc	10 - 300	10 - 300		<20 - 2,000

NOTE: Concentrations are reported in milligrams per kilogram (mg/Kg).

REFERENCES: Fuller, Wallace M., 1977. Movement of Selected Metals, Asbestos, and Cyanide in Soil: Applications to Waste Disposal Problems. EPA 600/2-77-020

Bowen, N.M., 1966. Toxic Elements in Biochemistry. Academic Press, NY.

Friberg, L., Nordberg, G.F., Vouk, V.B., 1979. Handbook on the Toxicology of Metals. Elsevier/North Holland Biochemical Press, Amsterdam.

USGS: Shacklette, M.T. and Boerngen, J.G., 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. U.S. Geological Survey Professional Paper 1270.

TABLE 3
SOIL QUALITY ANALYTICAL RESULTS
27 JULY 1988
ANICON PROPERTY
BILLERICA, MASSACHUSETTS

	BORING NO. SAMPLE NO. DEPTH (ft)	B-2 S-1 0 - 2	B-3 S-2 5 - 7	B-4 S-2 5 - 7	B-6 S-2 4.5 - 6.5	B-8 S-3 6.5 - 8.5
ANALYSIS						

INORGANICS (mg/Kg)						
Antimony		85.3	78.8	88.5	78.8	85.0
Arsenic		0.22	0.53	0.45	0.71	0.38
Barium		<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium		3.68	2.70	3.00	2.38	2.38
Chromium (total)		8.75	7.73	13.43	8.55	11.90
Copper		17.95	14.10	12.50	8.48	2.75
Lead		48.0	44.0	46.5	41.0	49.8
Mercury		0.12	0.33	0.14	0.18	0.21
Nickel		20.88	18.05	22.15	15.38	16.13
Selenium		0.98	1.32	1.61	0.88	1.02
Silver		1.73	1.60	1.78	1.38	1.37
Thallium		18.8	16.3	18.7	14.9	16.0
Zinc		38.50	24.60	28.10	16.90	14.23
VOLATILE ORGANIC COMPOUNDS (ug/Kg)						
Trans 1,2-Dichloroethene		ND	ND	ND	<50	ND

NOTE: ND = Not detected above laboratory detection limits (50 ug/Kg)

METHODS: Priority Pollutant Metals by U.S.EPA Method 600/4-79-020
Hazardous Substance List VOCs by U.S. EPA Method SW 8240



SECTION FIVE

SUMMARY OF FINDINGS

The findings of WESTON's investigation may be summarized as follows:

- Based on a review of files available from State and local agencies and interviews with persons knowledgeable with the property, no environmental incidents resulting from spills or storage of oils, hazardous materials, and/or wastes have occurred on the property; however, Aotco Metal Finishing, Inc., which abuts the west side of the site, has been investigated by the DEQE for groundwater contamination. Currently, options to pump and treat contaminated groundwater beneath the Aotco property are being considered.
- A receptor analysis performed for the area immediately around the site revealed that the primary receptors are the shallow aquifer downgradient of the property and the drainage easement on the east side of the property. In addition, the unnamed stream which flows parallel to Suburban Park Drive may be a potential receptor of groundwater discharge from the shallow aquifer beneath the property.
- The Amicon property is underlain by unconsolidated glacial till deposits consisting predominantly of dense, poorly sorted fine to coarse sand, trace to little silt and trace to little gravel. Discontinuous fill deposits consisting of sand and gravel overlay till deposits beneath the site. A peat layer 1.5 feet thick was encountered in B-5 confirming reports of the previous existence of "wet" areas around the property.
- Groundwater was encountered in the borings under unconfined conditions at depths ranging from two feet at B-3 to seven feet at B-1 and B-7. Local groundwater flow direction based on water levels collected by Gradient Corporation from the Aotco Metal Finishing,



Inc. property is northwest towards the unnamed stream which flows in a southerly direction parallel to Suburban Park Drive.

- No volatile organic compounds on the U.S. EPA Hazardous Substance List were detected in samples submitted for laboratory analysis from B-2, B-3, B-4, or B-8. A non-quantifiable trace concentration of trans-1,2-dichloroethylene was detected in sample B-6/S-2 at a concentration less than the sample detection limit of 50 ug/kg. This sample was collected from a soil boring on the western boundary of the Amicon property, where it abuts the Aotco property. Previous investigations (Gradient, 1987, The Geotechnical Group, 1985) have shown that 1,2-dichloroethylene isomers and associated chlorinated hydrocarbon VOCs are present on the Aotco property in both soil and groundwater.
- Metals concentrations in sediment samples submitted for analysis were generally found to be within anticipated background levels for metals in soils with the exceptions of cadmium and antimony which were slightly elevated. In view of the widespread and uniform distribution of these metals across the property, it is likely that these are indicative of naturally occurring concentrations which are slightly higher in this location.
- Based on the investigation undertaken and described in this report, no information was revealed that Amicon's operations had resulted in oil or hazardous waste discharges to the property that would make the property a candidate for action under MGL 21E. However, operations at Aotco have, reportedly, resulted in groundwater contamination (Gradient, 1987). Based on the lack of definitive groundwater flow and quality information in the area, no conclusions can be made regarding groundwater conditions under the property at 9 Linnell Circle or the potential or real impacts to that property from Aotco or other operations.



SECTION SIX

QUALIFICATION OF FINDINGS

The findings presented in this report are based on the investigations described herein. Notwithstanding the findings of this investigation, WESTON does not guarantee or warrant that the property investigated is free from contamination or encumbrances arising from past site usage or from migration of contamination onto the site from any off-site source.

This investigation was conducted primarily to assess subsurface conditions at the site. As such, the investigation did not include a comprehensive evaluation of all potential environmental conditions on the site.



REFERENCES

Gradient Corporation, Additional Site Investigations Report, Aotco Metal Finishing, Inc., Billerica, Massachusetts, September 1987.

Gradient Corporation, Review and Evaluation of Groundwater Data, Aotco Metals Finishing, Inc., Billerica, Massachusetts, March 1987.

The Geotechnical Group, Environmental Site Assessment, Aotco Metals Finishing, Inc., Billerica, Massachusetts, November 1985.



**APPENDIX A
BORING LOGS**

ROY F. WESTON INC.

BORING LOG

Boring No.: B-1

Client: Emerson & Cuming, Inc. (Amicon)

Project No.: 3710-02-01

Contractor: D.L. Maher, Inc.

Equipment: Ardco mounted Hammer weight: 140 lbs
Mobile B-53 hollow- Length of fall: 30 inches
stem auger rig

Inspector: J.S. Hansen Total depth: 8.5 ft

Date: 27 July 1988 Depth to water: 7 ft

DEPTH (feet)	SAMPLE No. & BLOW CTS	CLASSIFICATION	COMMENTS
		HUMUS	
0		0'-3' Dark brown fine SAND	loose
		land ORGANIC SILT, trace	moist
1	S-1	coarse Sand	rec=85%
2		-----3'	
		FILL	
3		3'-4' Brown fine to coarse	
		SAND, little coarse Gravel	
4		-----4'	
		GLACIAL TILL	
5		4'-6.5' Gray brown fine to	dense
	S-2	medium SAND, trace Silt,	rec=100%
6		little fine to coarse	
		Gravel	
7		-----6.5'	wet
	S-3	6.5'-8.5' Gray brown fine	rec=100%
8		to coarse SAND, little	
		Silt, trace fine Gravel	
9		---BOTTOM OF BOREHOLE---8.5'	
10			
11		NOTE: Boring backfilled	
		with drill cuttings on	
12		borehole completion.	
13			
14			
15			
16			

ROY F. WESTON INC.

BORING LOG

Boring No.: B-2

Client: Emerson & Cuming, Inc. (Amicon)

Project No.: 3710-02-01

Contractor: D.L. Maher, Inc.

Equipment: Ardco mounted Hammer weight: 140 lbs
Mobile B-53 hollow-stem auger rig Length of fall: 30 inches

Inspector: J.S. Hansen

Total depth: 7 ft

Date: 27 July 1988

Depth to water: 5.4 ft

DEPTH (feet)	SAMPLE No. & BLOW CTS	CLASSIFICATION	COMMENTS
0	-	HUMUS	
0	-	0'-3' Dark brown fine SAND	loose
1	S-1	and ORGANICS MATTER, some Silt	moist rec=80%
2	-	13	
3	-	-----3'	
4	-		
5	-	GLACIAL TILL	dense
6	S-2	3'-7' Gray fine to coarse SAND, little Silt, trace fine Gravel	wet rec=80%
7	-	15	
7	-	-----BOTTOM OF BOREHOLE---7'	
8	-		
9	-	NOTE: Boring backfilled with drill cuttings on borehole completion.	
10	-		
11	-		
12	-		
13	-		
14	-		
15	-		
16	-		

ROY F. WESTON INC.

BORING LOG

Boring No.: B-3

Client: Emerson & Cuming, Inc. (Amicon)

Project No.: 3710-02-01

Contractor: D.L. Maher, Inc.

Equipment: Ardco mounted Hammer weight: 140 lbs
Mobile B-53 hollow- Length of fall: 30 inches
stem auger rig

Inspector: J.S. Hansen

Total depth: 7 ft

Date: 27 July 1988

Depth to water: 2 ft

DEPTH (feet)	SAMPLE No. & BLOW CTS	CLASSIFICATION	COMMENTS
		FILL	
0	-	0'-3.5' Gray brown fine	loose
	-	SAND little Silt, little	moist
1	S-1	fine to coarse Gravel	rec=55%
2	-		wet
3	-	- - - - - 3.5'	
4	-		
5	-	3.5'-7' Light brown fine to	dense
	-	coarse SAND, little Silt,	rec=75%
6	S-2	little fine to coarse	
	-	Gravel	
7	-	-----BOTTOM OF BOREHOLE-----7'	
8	-		
9	-	NOTE: Boring backfilled	
	-	with drill cuttings on	
10	-	borehole completion.	
11	-		
12	-		
13	-		
14	-		
15	-		
16	-		

ROY F. WESTON INC.

BORING LOG

Boring No.: B-4

Client: Emerson & Cuming, Inc. (Amicon)

Project No.: 3710-02-01

Contractor: D.L. Maher, Inc.

Equipment: Ardco mounted Hammer weight: 140 lbs
Mobile B-53 hollow- Length of fall: 30 inches
stem auger rig

Inspector: J.S. Hansen

Total depth: 7 ft

Date: 27 July 1988

Depth to water: 5.8 ft

DEPTH (feet)	SAMPLE No. & BLOW CTS	CLASSIFICATION	COMMENTS
0	-	GLACIAL TILL	
1	S-1	0'-2' Gray brown fine to medium SAND, little Silt	loose moist rec=25%
2	-	- - - - -2'	
3	-		
4	-		
5	-	2'-7' Gray brown fine to medium SAND, little Silt,	ldense mottling
6	S-2	trace fine to medium Gravel	wet rec=85%
7	-	-----BOTTOM OF BOREHOLE----	
8	-		
9	-	NOTE: Boring backfilled with drill cuttings on	
10	-	borehole completion.	
11	-		
12	-		
13	-		
14	-		
15	-		
16	-		

ROY F. WESTON INC.

BORING LOG

Boring No.: B-5

Client: Emerson & Cuming, Inc. (Amicon)

Project No.: 3710-02-01

Contractor: D.L. Maher, Inc.

Equipment: Ardco mounted Hammer weight: 140 lbs
Mobile B-53 hollow- Length of fall: 30 inches
stem auger rig

Inspector: J.S. Hansen

Total depth: 6.5 ft

Date: 27 July 1988

Depth to water: 5.5 ft

DEPTH (feet)	SAMPLE No. & BLOW CTS	CLASSIFICATION	COMMENTS
		HUMUS	
0		0'-2' Dark brown fine to	loose
		coarse SAND, some Silt,	moist
1	S-1	trace fine Gravel	rec=65%
		-----2'	
2		2'-3' Boulder	
		-----3'	
3		PEAT	
4		3'-4.5' Dark brown ORGANIC	
		MATTER, trace fine Sand	
5		-----4.5'	dense
	S-2	GLACIAL TILL	wet
6		4.5'-6.0' Light brown fine	rec=70%
		to coarse SAND and fine to	
7		coarse GRAVEL, trace Silt	
		-----6'	
8		6'-6.5' Gray fine SAND	
		---BOTTOM OF BOREHOLE---6.5'	
9			
10			
		NOTE: Boring backfilled	
11		with drill cuttings on	
		borehole completion.	
12			
13			
14			
15			
16			

ROY F. WESTON INC.

BORING LOG

Boring No.: B-8

Client: Emerson & Cuming, Inc. (Amicon)

Project No.: 3710-02-01

Contractor: D.L. Maher, Inc.

Equipment: Ardco mounted Hammer weight: 140 lbs
Mobile B-53 hollow- Length of fall: 30 inches
stem auger rig

Inspector: J.S. Hansen Total depth: 8.5 ft

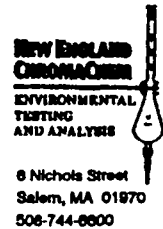
Date: 27 July 1988 Depth to water: 4.5 ft

DEPTH (feet)	SAMPLE No. & BLOW CTS	CLASSIFICATION	COMMENTS
0	-	HUMUS	
0	-	0'-3' Dark brown ORGANIC	loose
1	S-1	MATTER and SILT, little	moist
1	-	fine to coarse Sand	rec=50%
2	-		
3	-		
3	-		
4	-	FILL	
4	-	3'-7.2' Gray brown fine to	dense
5	-	coarse SAND, trace Silt	vet
5	-		rec=85%
6	S-2		
6	-		
7	-		
7	-		
8	S-3	GLACIAL TILL	
8	-	7.2'-8.5' Light brown fine	dense
9	-	SAND, trace Silt, little	rec=100%
9	-	fine to coarse Gravel	
10	-		
10	-	---BOTTOM OF BOREHOLE---8.5'	
11	-		
12	-	NOTE: Boring backfilled	
12	-	with drill cuttings on	
13	-	borehole completion.	
14	-		
15	-		
16	-		



APPENDIX B
LABORATORY REPORT OF SEDIMENT SAMPLING RESULTS

NEW ENGLAND CHROMACHEM
6 NICHOLS STREET
SALEM, MA 01970
508-744-6600



EPA 8240 VOLATILE ORGANICS
CLIENT: ROY F. WESTON, INC
SAMPLE ID: NEC # 807190
CLIENT ID: # B-2/S-1 SOIL SAMPLE
SAMPLE RECEIVED: 7/28/88
SAMPLE ANALYZED: 7/29/88

PARAMETER

RESULTS (UG/KG WET WT.)

BENZENE	ND
BROMODICHLOROMETHANE	ND
BROMOFORM	ND
BROMOMETHANE	ND
CARBON TETRACHLORIDE	ND
CHLOROBENZENE	ND
CHLORETHANE	ND
2-CHLOROETHYLVINYL ETHER	ND
CHLOROFORM	ND
CHLOROMETHANE	ND
DIBROMOCHLOROMETHANE	ND
1,1-DICHLOROETHANE	ND
1,2-DICHLOROETHANE	ND
1,1-DICHLOROETHENE	ND
TRANS-1,2-DICHLORETHENE	ND
1,2-DICHLOROPROPANE	ND
CIS-1,3-DICHLOROPROPENE	ND
TRANS-1,3-DICHLOROPROPENE	ND
ETHYLBENZENE	ND
METHYLENE CHLORIDE	ND
1,1,2,2-TETRACHLOROETHANE	ND
TETRACHLOROETHENE	ND
TOLUENE	ND
1,1,1-TRICHLOROETHANE	ND
1,1,2-TRICHLOROETHANE	ND
TRICHLOROETHENE	ND
TRICHLOROFLUOROMETHANE	ND
VINYL CHLORIDE	ND

RECOVERIES OF INTERNAL STANDARDS

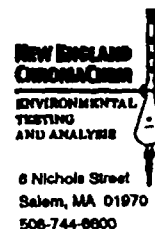
D4-1,2-DICHLOROETHANE	102
D6-BENZENE	93
D5-ETHYLBENZENE	100

METHOD DETECTION LIMIT = 50 UG/KG WET WT.

7/29/88
DATE

Bruce A. Bont
LABORATORY DIRECTOR

NEW ENGLAND CHROMACHEM
6 NICHOLS STREET
SALEM, MA 01970
508-744-6600



EPA 8240 VOLATILE ORGANICS
CLIENT: ROY F. WESTON, INC
SAMPLE ID: NEC # 807191
CLIENT ID: # B-3/S-2 SOIL SAMPLE
SAMPLE RECEIVED: 7/28/88
SAMPLE ANALYZED: 7/29/88

PARAMETER

RESULTS (UG/KG WET WT.)

BENZENE	ND
BROMODICHLOROMETHANE	ND
BROMOFORM	ND
BROMOMETHANE	ND
CARBON TETRACHLORIDE	ND
CHLOROBENZENE	ND
CHLORETHANE	ND
2-CHLOROETHYLVINYL ETHER	ND
CHLOROFORM	ND
CHLOROMETHANE	ND
DIBROMOCHLOROMETHANE	ND
1, 1-DICHLOROETHANE	ND
1, 2-DICHLOROETHANE	ND
1, 1-DICHLOROETHENE	ND
TRANS-1, 2-DICHLORETHENE	ND
1, 2-DICHLOROPROPANE	ND
CIS-1, 3-DICHLOROPROPENE	ND
TRANS-1, 3-DICHLOROPROPENE	ND
ETHYLBENZENE	ND
METHYLENE CHLORIDE	ND
1, 1, 2, 2-TETRACHLOROETHANE	ND
TETRACHLOROETHENE	ND
TOLUENE	ND
1, 1, 1-TRICHLOROETHANE	ND
1, 1, 2-TRICHLOROETHANE	ND
TRICHLOROETHENE	ND
TRICHLOROFLUOROMETHANE	ND
VINYL CHLORIDE	ND

RECOVERIES OF INTERNAL STANDARDS

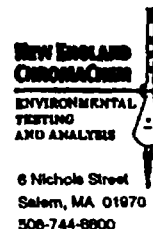
D4-1, 2-DICHLOROETHANE	95
D6-BENZENE	102
D5-ETHYLBENZENE	108

METHOD DETECTION LIMIT = 50 UG/KG WET WT.

7/29/88
DATE

Bruce A. Boins
LABORATORY DIRECTOR

NEW ENGLAND CHROMACHEM
6 NICHOLS STREET
SALEM, MA 01970
508-744-6600



EPA 8240 VOLATILE ORGANICS
CLIENT: ROY F. WESTON, INC
SAMPLE ID: NEC # 807192
CLIENT ID: # B-4/S-2 SOIL SAMPLE
SAMPLE RECEIVED: 7/28/88
SAMPLE ANALYZED: 7/29/88

PARAMETER

RESULTS (UG/KG WET WT.)

BENZENE	ND
BROMODICHLOROMETHANE	ND
BROMOFORM	ND
BROMOMETHANE	ND
CARBON TETRACHLORIDE	ND
CHLOROBENZENE	ND
CHLORETHANE	ND
2-CHLOROETHYLVINYL ETHER	ND
CHLOROFORM	ND
CHLOROMETHANE	ND
DIBROMOCHLOROMETHANE	ND
1, 1-DICHLOROETHANE	ND
1, 2-DICHLOROETHANE	ND
1, 1-DICHLOROETHENE	ND
TRANS-1, 2-DICHLORETHENE	ND
1, 2-DICHLOROPROPANE	ND
CIS-1, 3-DICHLOROPROPENE	ND
TRANS-1, 3-DICHLOROPROPENE	ND
ETHYLBENZENE	ND
METHYLENE CHLORIDE	ND
1, 1, 2, 2-TETRACHLOROETHANE	ND
TETRACHLOROETHENE	ND
TOLUENE	ND
1, 1, 1-TRICHLOROETHANE	ND
1, 1, 2-TRICHLOROETHANE	ND
TRICHLOROETHENE	ND
TRICHLOROFLUOROMETHANE	ND
VINYL CHLORIDE	ND

RECOVERIES OF INTERNAL STANDARDS

D4-1, 2-DICHLOROETHANE	103
D6-BENZENE	94
D5-ETHYLBENZENE	98

METHOD DETECTION LIMIT = 50 UG/KG WET WT.

7/29/88
DATE

Bruce A. Bown
LABORATORY DIRECTOR

NEW ENGLAND CHROMACHEM
6 NICHOLS STREET
SALEM, MA 01970
508-744-6600

NEW ENGLAND
CHROMACHEM
ENVIRONMENTAL
TESTING
AND ANALYSIS

6 Nichols Street
Salem, MA 01970
508-744-6600

EPA 8240 VOLATILE ORGANICS
CLIENT: ROY F. WESTON, INC
SAMPLE ID: NEC # 807193
CLIENT ID: # B-6/S-2 SOIL SAMPLE
SAMPLE RECEIVED: 7/28/88
SAMPLE ANALYZED: 7/29/88

PARAMETER	RESULTS (UG/KG WET WT.)
BENZENE	ND
BROMODICHLOROMETHANE	ND
BROMOFORM	ND
BROMOMETHANE	ND
CARBON TETRACHLORIDE	ND
CHLOROBENZENE	ND
CHLORETHANE	ND
2-CHLOROETHYLVINYL ETHER	ND
CHLOROFORM	ND
CHLOROMETHANE	ND
DIBROMOCHLOROMETHANE	ND
1, 1-DICHLOROETHANE	ND
1, 2-DICHLOROETHANE	ND
1, 1-DICHLOROETHENE	ND
TRANS-1, 2-DICHLOROETHENE	TRACE
1, 2-DICHLOROPROPANE	ND
CIS-1, 3-DICHLOROPROPENE	ND
TRANS-1, 3-DICHLOROPROPENE	ND
ETHYLBENZENE	ND
METHYLENE CHLORIDE	ND
1, 1, 2, 2-TETRACHLOROETHANE	ND
TETRACHLOROETHENE	ND
TOLUENE	ND
1, 1, 1-TRICHLOROETHANE	ND
1, 1, 2-TRICHLOROETHANE	ND
TRICHLOROETHENE	ND
TRICHLOROFLUOROMETHANE	ND
VINYL CHLORIDE	ND

RECOVERIES OF INTERNAL STANDARDS

D4-1, 2-DICHLOROETHANE	97
D6-BENZENE	103
D5-ETHYLBENZENE	96

METHOD DETECTION LIMIT = 50 UG/KG WET WT.

7/29/88
DATE

Bruce A. Brown
LABORATORY DIRECTOR

NEW ENGLAND CHROMACHEM
6 NICHOLS STREET
SALEM, MA 01970
508-744-6600



EPA 8240 VOLATILE ORGANICS
CLIENT: ROY F. WESTON, INC.
SAMPLE ID: NEC # 807194
CLIENT ID: # B-8/S-3 SOIL SAMPLE
SAMPLE RECEIVED: 7/28/88
SAMPLE ANALYZED: 7/29/88

PARAMETER	RESULTS (UG/KG WET WT.)
BENZENE	ND
BROMODICHLOROMETHANE	ND
BROMOFORM	ND
BROMOMETHANE	ND
CARBON TETRACHLORIDE	ND
CHLOROBENZENE	ND
CHLORETHANE	ND
2-CHLOROETHYLVINYL ETHER	ND
CHLOROFORM	ND
CHLOROMETHANE	ND
DI BROMOCHLOROMETHANE	ND
1, 1-DICHLOROETHANE	ND
1, 2-DICHLOROETHANE	ND
1, 1-DICHLOROETHENE	ND
TRANS-1, 2-DICHLORETHENE	ND
1, 2-DICHLOROPROPANE	ND
CIS-1, 3-DICHLOROPROPENE	ND
TRANS-1, 3-DICHLOROPROPENE	ND
ETHYLBENZENE	ND
METHYLENE CHLORIDE	ND
1, 1, 2, 2-TETRACHLOROETHANE	ND
TETRACHLOROETHENE	ND
TOLUENE	ND
1, 1, 1-TRICHLOROETHANE	ND
1, 1, 2-TRICHLOROETHANE	ND
TRICHLOROETHENE	ND
TRICHLOROFLUOROMETHANE	ND
VINYL CHLORIDE	ND

RECOVERIES OF INTERNAL STANDARDS

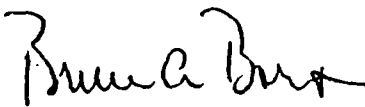
D4-1, 2-DICHLOROETHANE	105
D6-BENZENE	101
D5-ETHYLBENZENE	92

METHOD DETECTION LIMIT = 50 UG/KG WET WT.

07/29/88
DATE

RECEIVED
AUG26

ROY F. WESTON, INC.
CONCORD OFFICE


LABORATORY DIRECTOR

NEW ENGLAND CHROMACHEM
6 NICHOLS STREET
SALEM, MA 01970
617-744-6600

NEW ENGLAND
CHROMACHEM
ENVIRONMENTAL
TESTING
AND ANALYSIS

6 Nichols Street
Salem, MA 01970
508-744-6600

EPA 624 PURGEABLES
CLIENT: ROY F. WESTON, INC.
SAMPLE ID: NEC # 807195
CLIENT ID: # QA-1 WATER SAMPLE
SAMPLE RECEIVED: 7/28/88
SAMPLE ANALYZED: 7/29/88

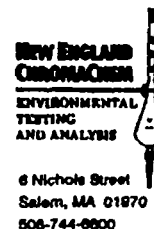
PARAMETER	RESULTS (UG/L)
BENZENE	ND
BROMODICHLOROMETHANE	ND
BROMOFORM	ND
BROMOMETHANE	ND
CARBON TETRACHLORIDE	ND
CHLOROBENZENE	ND
CHLORETHANE	ND
2-CHLOROETHYLVINYL ETHER	ND
CHLOROFORM	ND
DIBROMOCHLOROMETHANE	ND
1, 2-DICHLOROBENZENE	ND
1, 3-DICHLOROBENZENE	ND
1, 4-DICHLOROBENZENE	ND
1, 1-DICHLOROETHANE	ND
1, 2-DICHLOROETHANE	ND
1, 1-DICHLOROETHENE	ND
TRANS-1, 2-DICHLORETHENE	ND
1, 2-DICHLOROPROPANE	ND
CIS-1, 3-DICHLOROPROPENE	ND
TRANS-1, 3-DICHLOROPROPENE	ND
ETHYLBENZENE	ND
METHYLENE CHLORIDE	ND
1, 1, 2, 2-TETRACHLOROETHANE	ND
TETRACHLOROETHENE	ND
TOLUENE	ND
1, 1, 1-TRICHLOROETHANE	ND
1, 1, 2-TRICHLOROETHANE	ND
TRICHLOROETHENE	ND
TRICHLOROFLUOROMETHANE	ND
VINYL CHLORIDE	ND
TOTAL XYLENES	ND
RECOVERIES OF INTERNAL STANDARDS	
BROMOCHLOROMETHANE	106
2-BROMO-1-CHLOROPROPANE	94
1, 4-DICHLOROBUTANE	103

METHOD DETECTION LIMIT = 1 UG/L

07/29/88
DATE

Bruce A. Bont
LABORATORY DIRECTOR

NEW ENGLAND CHROMACHEM
6 NICHOLS STREET
SALEM, MA 01970
617-744-6600




EPA 624 PURGEABLES
CLIENT: ROY F. WESTON, INC.
SAMPLE ID: NEC # 807196
CLIENT ID: # QA-2 WATER SAMPLE
SAMPLE RECEIVED: 7/28/88
SAMPLE ANALYZED: 7/29/88

PARAMETER	RESULTS (UG/L)
BENZENE	ND
BROMODICHLOROMETHANE	ND
BROMOFORM	ND
BROMOMETHANE	ND
CARBON TETRACHLORIDE	ND
CHLOROBENZENE	ND
CHLORETHANE	ND
2-CHLOROETHYLVINYL ETHER	ND
CHLOROFORM	ND
DI BROMOCHLOROMETHANE	ND
1, 2-DICHLOROBENZENE	ND
1, 3-DICHLOROBENZENE	ND
1, 4-DICHLOROBENZENE	ND
1, 1-DICHLOROETHANE	ND
1, 2-DICHLOROETHANE	ND
1, 1-DICHLOROETHENE	ND
TRANS-1, 2-DICHLORETHENE	ND
1, 2-DICHLOROPROPANE	ND
CIS-1, 3-DICHLOROPROPENE	ND
TRANS-1, 3-DICHLOROPROPENE	ND
ETHYLBENZENE	ND
METHYLENE CHLORIDE	ND
1, 1, 2, 2-TETRACHLOROETHANE	ND
TETRACHLOROETHENE	ND
TOLUENE	ND
1, 1, 1-TRICHLOROETHANE	ND
1, 1, 2-TRICHLOROETHANE	ND
TRICHLOROETHENE	ND
TRICHLOROFLUOROMETHANE	ND
VINYL CHLORIDE	ND
TOTAL XYLENES	ND
RECOVERIES OF INTERNAL STANDARDS	
BROMOCHLOROMETHANE	97
2-BROMO-1-CHLOROPROPANE	104
1, 4-DICHLOROBUTANE	92

METHOD DETECTION LIMIT = 1 UG/L

07/29/88
DATE


LABORATORY DIRECTOR

NEW ENGLAND CHROMACHEM
6 NICHOLS STREET
SALEM, MA 01970
508-744-6600

NEW ENGLAND
CHROMACHEM
ENVIRONMENTAL
TESTING
AND ANALYSIS

6 Nichols Street
Salem, MA 01970
508-744-6600

CLIENT: ROY F. WESTON, INC

LABORATORY REPORT
~~~~~

| PARAMETER           | SAMPLE DESCRIPTION |          |
|---------------------|--------------------|----------|
| PRIORITY POLLUTANTS | 807195             |          |
| WATER SAMPLE        | QA-1               |          |
|                     | RESULTS            | M. D. L. |
| Ag (mg/L)           | < 0.01             | < 0.01   |
| As (mg/L)           | < 0.001            | < 0.001  |
| Ba (mg/L)           | < 1.0              | < 1.0    |
| Cd (mg/L)           | < 0.005            | < 0.005  |
| Cr-T (mg/L)         | < 0.01             | < 0.01   |
| Cu (mg/L)           | < 0.02             | < 0.02   |
| Hg (mg/L)           | < 0.002            | < 0.002  |
| Ni (mg/L)           | < 0.04             | < 0.04   |
| Pb (mg/L)           | < 0.05             | < 0.05   |
| Sb (mg/L)           | < 0.20             | < 0.20   |
| Se (mg/L)           | < 0.005            | < 0.005  |
| Tl (mg/L)           | < 0.10             | < 0.10   |
| Zn (mg/L)           | 0.05               | < 0.005  |

Sampled by:  
Sample R' cd:  
Sample Analyzed:

Client  
06/28/88  
06/29/88

06/29/88  
DATE

*Bruce A. Bowe*  
LABORATORY DIRECTOR

NEW ENGLAND CHROMACHEM  
6 NICHOLS STREET  
SALEM, MA 01970  
508-744-6600

NEW ENGLAND  
CHROMACHEM  
ENVIRONMENTAL  
TESTING  
AND ANALYSIS

6 Nichols Street  
Salem, MA 01970  
508-744-6600

CLIENT: ROY F. WESTON INC

LABORATORY REPORT  
~~~~~

PARAMETER		SAMPLE DESCRIPTION				
PRIORITY POLLUTANTS		SOIL SAMPLES				
UNITS (MG/KG WET WT.)	807190 B-2/S1	807191 B-3/S2	807192 B-4/S2	807193 B-6/S2	807194 B-8/S3	M. D. L. -----
Ag	1.73	1.60	1.78	1.38	1.37	< 0.01
As	0.22	0.53	0.45	0.71	0.38	< 0.001
Ba	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cd	3.68	2.70	3.00	2.38	2.38	< 0.005
Cr-T	8.75	7.73	13.43	8.55	11.90	< 0.01
Cu	17.95	14.10	12.50	8.48	2.75	< 0.02
Hg	0.12	0.33	0.14	0.18	0.21	< 0.002
Ni	20.88	18.05	22.15	15.38	16.13	< 0.04
Pb	48.0	44.0	46.5	41.0	49.8	< 0.05
Sb	85.3	78.8	88.5	78.8	85.0	< 0.20
Se	0.98	1.32	1.61	0.88	1.02	< 0.005
Tl	18.8	16.3	18.7	14.9	16.0	< 0.10
Zn	38.50	24.60	28.10	16.90	14.23	< 0.005

Sampled by:
Sample R' cd:
Sample Analyzed:

Client
06/28/88
06/29/88

06/29/88
DATE


LABORATORY DIRECTOR

HYPERION CATALYSIS INTERNATIONAL

128 SPRING STREET
LEXINGTON, MASSACHUSETTS 02173

*Box I. 10. 4. 1
Billerica MA - Amicon*

APR 25 1986

April 24, 1986

Mr. Bruce Greon
The Leggat Company, Inc.
27 State Street
Boston, MA 02109

Dear Bruce:

The following term sheet summarizes an acceptable basis for a sublease of 9 Linnell Circle, Billerica, MA by Hyperion Catalysis International, Inc., from Amicon Inc., a Grace Company.

Premises: 22,300 square feet at 9 Linnell Circle, Billerica in "as is" condition including fixtures and furnishings itemized in Attachment A.

Term Commencement: June 1, 1986

Term Expiration: March 31, 1989

Rent: \$7 per square foot annual rate completely net for period August 1, 1986 to July 31, 1987.

\$10 per square foot annual rate completely net for period August 1, 1987 to March 31, 1989.

Security: Hyperion to provide Amicon Twenty Thousand Dollars (\$20,000.00) as security deposit.

Additional Rent: \$2 per square foot annual rate for period August 1, 1986 to March 31, 1989, for existing improvements.

Mr. Bruce Greon

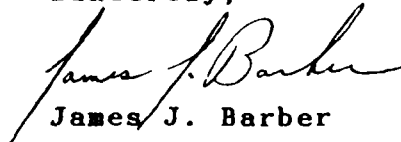
-2-

April 24, 1986

- Other Terms:
- 1) Hyperion shall receive a three year option to lease premises directly from landlord at rent of \$10.82 per square foot.
 - 2) Hyperion shall receive a second three year option to renew its lease directly from landlord at the fair market rent for a similar premises, absent tenant's improvements.
 - 3) Hyperion shall receive from landlord a right of first refusal to purchase the premises.

These terms are, of course, subject to execution of mutually acceptable sublease and option agreements.

Sincerely,


James J. Barber

JJB:ml

UNIFORM COMMERCIAL CODE — FINANCING STATEMENT — FORM UCC-1

INSTRUCTIONS

1. PLEASE TYPE this form. Fold only along perforation for mailing.
2. Remove Secured Party and Debtor copies and send other 3 copies with interleaved carbon paper to the filing officer. Enclose filing fee.
3. When filing is to be with more than one office, Form UCC-2 may be placed over this set to avoid double typing.
4. If the space provided for any item(s) on the form is inadequate the item(s) should be continued on additional sheets, preferably 5" x 8" or 8" x 10". Only one copy of such additional sheets need be presented to the filing officer with a set of three copies of the financing statement. Long schedules of collateral, indentures, etc., may be on any size paper that is convenient for the secured party.
5. If collateral is crops or goods which are or are to become fixtures, describe generally the real estate and give name of landlord or owner.
6. When a copy of the security agreement is used as a financing statement, it is requested that it be accompanied by a completed but unsigned set of these forms, without extra fee.
7. At the time of original filing, filing officer should return third copy as an acknowledgment. At a later time, secured party may date and sign termination legend and use third copy as a Termination Statement.

This FINANCING STATEMENT is presented to a filing officer for filing pursuant to the Uniform Commercial Code. 3 Maturity date (if any):

1 Debtor(s) (Last Name First) and address(es)

2 Secured Party(ies) and address(es)

For Filing Officer (Date, Time, Number, and Filing Office)

This financing statement covers the following types (or items) of property:

Check ☒ if covered: ☐ Proceeds of Collateral are also covered ☐ Products of Collateral are also covered No. of additional sheets presented:

Filed with:

By: _____
Signature(s) of Debtor(s)

By: _____
Signature(s) of Secured Party(ies)

Filing Officer Copy — Alphabetical

STANDARD FORM — UNIFORM COMMERCIAL CODE — FORM UCC-1

Forms may be purchased from Hobbs & Warren, Inc., 34 Hawley St., Boston, Mass.

BIL-1-A

C & D/ BILLERICA TRUST
LEXINGTON, MASSACHUSETTS

This instrument is a Lease in which the Lessor and the Lessee are the parties hereinafter named and relates to space in a building known and numbered as 9 Linnell Circle, Billerica Massachusetts.,

The parties to this lease hereby agree on ~~JANUARY~~ 4, 1983, as follows:—

REFERENCE DATA

LESSOR: Trustees of C & D/Billerica Trust, its successors and assigns

LESSOR'S ADDRESS: Mico Realty
62 Massachusetts Avenue
Lexington, Massachusetts 02173

LESSEE: Amicon Corporation

LESSEE'S ADDRESS: 25 Hartwell Avenue
Lexington, Massachusetts 02173

TERM: 5 years

TOTAL RENTABLE FLOOR
AREA OF BUILDING: 22,300 square feet

LESSEE'S RENTABLE
FLOOR AREA: Twenty-two Thousand Three Hundred square feet (22,300)

ANNUAL FIXED
RENT: Two Hundred Twenty-Two Thousand Thirty-Six and 00/100 (\$222,036.00) Dollars

INITIAL MONTHLY
PAYMENT: Eighteen Thousand Five Hundred Three and 00/100 (\$18,503.00) Dollars

TOTAL NUMBER OF PARKING
SPACES: Seventy-nine (79)

FIRE AND EXTENDED COVERAGE INSURANCE: 100% coverage for 100% replacement cost

PUBLIC LIABILITY
INSURANCE:

BODILY INJURY \$500,000/1,000,000
PROPERTY DAMAGE - \$250,000.00

SCHEDULE OF EXHIBITS:

- A. PLOT PLAN
- B. TENANT PLAN REQUIREMENTS DWCA 1, A2, E1, E2, E3, H1, P1.

TABLE OF ARTICLES:

- 1. Premises
- 2. Use
- 3. Term
- 4. Parking
- 5. Rent
- 6. Utilities
- 7. Taxes and Assessments
- 8. Lessee's Covenants
- 9. Repairs and Alterations
- 10. Insurance
- 11. Inability to Repair
- 12. Damages
- 13. Sublease
- 14. Identification
- 15. Access
- 16. Subordination
- 17. Damage and Destruction
- 18. Eminent Domain
- 19. Default - Bankruptcy
- 20. Waiver
- 21. Covenant
- 22. Surrender
- 23. Amendments
- 24. Governing Law
- 25. Severability
- 26. Hazardous waste
- 27. Notice
- 28. Successors
- 29. First Month's Rent
- 30. Option

1. PREMISES.

The Lessor hereby leases to the Lessee the premises and building thereon outlined in red on Exhibit A attached hereto and made a part hereof. Rentable area: 22,300 square feet

2. USE.

The Premises shall be used and occupied by Lessee solely for

light manufacturing and ancillary uses. In using or occupying the premises for such purpose, Lessee shall not use the same in any way which may affect the reputation or appearance of the Building or tend to degrade the economic status of the Building or interfere with its most effective operation.

3. TERM

(a) The original term of this Lease shall be five (5) years, plus that fraction of a month remaining after commencement date during the month in which commencement date shall occur; provided, however, if the commencement date shall occur on the first day of the month, the original term shall be five (5) years.

(b) As referred to herein commencement shall be the date upon which the Premises have been made available to the Lessee, which the parties estimate will be APRIL 1, 1984. The Premises are deemed available when work to be performed by Lessor pursuant to Exhibits A and B has been substantially completed with the exception of minor items which can be fully completed within thirty (30) days without material interference with the Lessee.

(c) The Lessor and the Lessee shall execute as an addenda to this Lease an agreement stating the agreed commencement date.

(d) Lessee may terminate this agreement if the Premises are not substantially completed within six (6) months of the signing of this Lease.

4. PARKING

Lessor does hereby grant to Lessee as appurtenant to the Premises the right to use the parking areas for use by Lessee, its employees and business visitors for the parking of 79 automobiles. The parking rights granted herein are non-transferable. Further, Lessor assumes no responsibility for loss or damage to any automobile or personal property therein.

5. RENT.

The rent for the first five years shall be \$222,036.00 per annum. Lessor agrees to pay Lessor on April 1, 1984, and thereafter monthly in advance on the first day of each calendar month a sum equal to one-twelfth that amount (\$18,503.00).

6. UTILITIES.

Lessee shall, throughout the term hereof, fully and promptly pay for all fuel, gas, electricity, water, sewer charges and other utilities of every kind furnished to the Premises and all other expenses incurred by Lessee in the use, operation and maintenance of the Premises and all activities conducted thereon. Lessor shall in no event be responsible for the interruption of any such services nor shall Lessor have the responsibiity of any kind therefor.

7. TAXES AND ASSESSMENTS.

As additional rental hereunder, Lessee shall pay and discharge as they become due, promptly to Lessor upon receipt and before delinquency, all municipal property taxes, assessments, charges, levies, and municipal liens of every nature and kind, including all governmental charges assessed or charged or which

may become a lien on the land or any part of the leasehold herein described and additions and improvements thereto made by and for Lessee's benefit during the term of this Lease. Any and all refunds or abatements shall be payable to Lessee.

8. LESSEE'S COVENANTS.

Lessee covenants with Lessor that during the term and for such further time as Lessee or anyone claiming by, through or under it, shall hold the Premises or any part thereof

a) Lessee will promptly pay the rent and additional rent to Lessor at the address from time to time designated for the sending of notices to Lessor at the times and in the manner prescribed within.

b) Lessee shall use and occupy the premises for the permitted uses only and will not injure or deface the premises nor permit in the premises or on the site any auction sale, nor permit any nuisance or the emission of objectionable noise or odor. Lessee may have food and beverage vending machines on the premises, however, Lessee agrees to obtain all necessary governmental permits to do so.

c) Lessee shall not without prior consent of Lessor permit or placing of any signs, awnings or the like, visible from outside the premises.

d) Lessee shall not do or suffer anything to be done whereby the Land and Building may be encumbered by any materialman's or mechanic's lien and shall, whenever and as often as any such lien is filed purporting to be for labor or material furnished to the Lessee, discharge the same of record within

thirty (30) days after the date of filing.

e) Any trade fixtures or equipment installed in or attached to the Premises by and at the expense of Lessee and all other property of Lessee which was personal property prior to its installation, regardless of how attached or affixed to the Premises, shall remain the property of Lessee and Lessee shall, except as otherwise provided herein or by agreement of the parties, have the right, at any time and from time to time to remove any and all of its trade fixtures, equipment and said property which it may have installed in or attached to the Premises, during the term (or during the renewal or extension thereof) or within a reasonable time after any accelerated termination thereof or within a reasonable time after any permitted holding over; but Lessee shall promptly repair in a workmanlike manner any damage resulting from such removal, shall plug or close in an approved manner any connection to sources of gas, air, water, electricity or heat or to cooling ducts and shall do whatever is necessary so as to leave the Premises undefaced in appearance and not in any state of depreciation as a result of such removal.

f) The Lessee shall use reasonable care in the occupancy of the demised premises, and except as otherwise provided in this lease, make such interior repairs in the demised premises as may be required by reason of the negligence of Lessee, its agents, employees, invitees and licensees.

9. REPAIRS AND ALTERATIONS

a) The Lessee shall, throughout the term of this Lease, at its own expense, without any exception

maintain in good order and repair in all respects the premises, buildings and improvements of every kind, including, without limitation the HVAC, roof, floors, sidewalks, curbs, landscaping, parking area, water and sewer connections, windows and other plate glass, if any, plumbing, water, gas and electric fixtures, pipes, wire and conduits, machinery, on or connected with the Building, or the Premises or used in the operation of the Building, together with any and all alterations, additions and improvements therein, in good, order and repair, all in accordance with applicable municipal ordinances and the direction of proper public officers, suffering no waste or injury and shall, at Lessee's sole expense, promptly make or acquire all needed repairs, replacements, renewals and additions, structural or otherwise, other than repairs to foundations or walls, foreseen or unforeseen, ordinary wear excepted in and to any of the foregoing, all as may be necessary to maintain the value of the Building throughout the term hereof. Lessee shall at its own expense promptly repair any damage to the premises, foundations and walls or other affected parts of the premises if said problem is caused in any way by the negligent actions of the Lessee. Lessee shall maintain all landscaping in a reasonably neat and attractive manner, plow snow and generally keep the improved portion of the land in a reasonable condition and provide adequate lighting as and when required. Maintenance of the HVAC system shall be by full maintenance contract with a contractor approved by the Lessor. Maintenance of all other systems and work done on repairs or alterations of the Premises shall be done

by contractors approved by the Lessor, requests for approval to be acted upon promptly and approval not be unreasonably withheld.

b) The Lessor shall apply all HVAC and other manufacturer or builder's guarantees and warranties to the Lessee, and it shall be Lessor's duty to see that the conditions, warranties and guarantees are complied with and properly enforced. However, except as stated herein after expiration of said warranties, Lessee shall be responsible as per Article 9(a) for repair at its expense for said items previously covered by warranties. Lessor also warrants that all work has been done in a workmanlike fashion and will make all repairs necessitated by construction defects for a period of one year from the commencement date so long as Lessee gives written notice of said defect.

c) All repairs, replacements, renewals and additions shall be of good and workmanlike quality, and shall be constructed and installed in compliance with all requirements of all governmental authorities having jurisdiction thereof and of the appropriate Board of Fire Underwriters or any successor thereof.

d) Lessee shall not, without the prior written consent of Lessor, not to be unreasonably withheld or delayed, make any material alterations, improvements or additions to the Premises or the Building. If Lessor consents, it may impose such reasonable conditions with respect thereto as Lessor deems appropriate. All fees, costs and expenses relating to any such alterations, improvements or additions shall be borne by Lessee. Lessee shall promptly defend and hold Lessor and the Premises and Building harmless from all costs, damages, liens and expenses

related thereto.

e) All work done by Lessee or its contractors shall be done in a first-class, workmanlike manner, using only good grades of materials, and shall comply with all insurance requirements and all applicable laws and ordinances and rules and regulations of governmental departments and agencies.

f) Lessee shall not make alterations and additions to Lessee's space except in accordance with plans and specifications therefor first approved by Lessor, which approval shall not be unreasonably withheld. All of Lessee's alterations and additions and installation of furnishings shall be coordinated with any work being performed by Lessor and in such manner as to maintain harmonious labor relations and not to damage the Building or Site. Except for work by Lessor's general contractor, Lessee, before its work is started, shall secure all licenses and permits necessary therefor; deliver to Lessor a statement of the names of all its contractors and subcontractors and the estimated cost of all labor and material to be furnished by them and security satisfactory to Lessor protecting Lessor against liens arising out of the furnishing of such labor and material, and cause each contractor to carry workmen's compensation insurance in statutory amounts covering all the contractor's and subcontractor's employees and comprehensive public liability insurance with such limits as Lessor may reasonably require, but in no event less than \$500,000/\$1,000,000, and property damage insurance with limits of not less than \$250,000 (all such insurance to be written in companies approved by Lessor and insuring Lessor and

Lessee as well as the contractors), and to deliver to Lessor certificates of all such insurance. Lessee agrees to pay promptly when due the entire cost of any work done on the Premises by Lessee, its agents, employees, or independent contractors, and not to cause or permit any liens for labor or materials performed or furnished in connection therewith to attach to the Premises or the Building or the Site and immediately to discharge any such liens which may so attach whether or not such liens are proper and justified.

10. INSURANCE.

a) During the term of this lease, Lessee shall, at its own cost and expense, as additional rent:

1. Keep all buildings, improvements and betterments on, in or appurtenant to the Premises, or used in connection with the operation and maintenance of the building and its related facilities, including all alterations, rebuildings, replacements, changes, additions and improvements on the Premises, insured for the benefit of Lessor, Lessee and all mortgagees, as their respective interests may appear, against fire and extended coverage perils, in an amount or amounts equal to \$1,300,000, 100% of its full replacement cost. If cost of construction shall exceed \$1,300,000.00, then the insurance must be in that greater amount. Said policy must contain an inflationary rider which automatically increases the coverage to 100% coverage of 100% of the then current replacement cost. Lessee agrees to submit to Lessor every

twelve (12) months evidence of this insurance coverage. In the event of a dispute between Lessor and insurer as to the value of the building, Lessor's figure shall be controlling.

2. Provide comprehensive general liability and property damage insurance, including, but not limited to, contractual liability insurance, protecting and indemnifying Lessor and its officers, employees and agents, and Lessee and any other parties having an insurable interest in the premises who or which may be designated by Lessor or Lessee against any and all claims (including all costs and expenses of defending against the same) for personal injury, disease, death or for damage or injury to or destruction of property (including loss of the use thereof) occurring upon, in or about the Premises and Building, the limits of which said general public liability and property damage insurance shall be \$500,000 or each person and \$1,000,000 for each accident; property damage - \$250,000. During the term of this lease, Lessee shall be required to carry amounts of such insurance as sound underwriting policy would dictate.
3. Provide workmen's compensation insurance and employer's liability insurance with a minimum limit of \$100,000.00 covering all persons with respect to whom death, bodily injury or sickness claims could be asserted against Lessee under the provisions of any workmen's compensation

law, employer's liability law or similar laws of the State of Massachusetts that may, at any time or time to time, be enacted.

4. Provide rental insurance with 100% coverage for rent due from Lessee to Lessor pursuant to this Lease.

b) Lessee shall not violate or knowingly permit any occupant of the Premises and Building, or any part thereof, to violate any of the conditions or provisions of any such policy, and Lessee shall so perform and satisfy the requirements of the companies writing such policies so that at all times companies of good standing shall be willing to write and/or continue such insurance.

c) Lessee and Lessor shall cooperate in connection with the collection of any insurance monies that may become due in the event of a loss, and either party shall execute and deliver to the other, upon the written request, such proofs of loss and other instruments may reasonably be required to obtain the recovery of any such insurance monies.

d) All insurance required by this Article 10 shall be effected under valid and enforceable policies as determined at commencement of Lease. Such policies shall provide that no reduction of coverage may be made therein and that such policies may not be cancelled as to the interest of Lessor and its beneficiaries, or where such policies cover a mortgage, as to the interest of the holder of such mortgage, until at least thirty (30) days from the date of mailing of notice thereof to Lessor or such mortgagee, as the case may be, by registered or certified mail.

mail.

e) All policies shall indemnify and hold harmless or protect or be payable to whomever Lessor or Lessee may designate, and shall specify Lessor, its beneficiaries and agents, and such other persons as Lessor may designate as additional insureds.

f) In connection with all insurance policies required to be maintained by Lessee in accordance with the provisions of this Article 10, Lessee shall prior to the commencement of the term and at least thirty (30) days prior to the expiration of any such policy, deliver to Lessor certificates of insurance evidencing the existence of coverage or renewal of coverage.

11. INABILITY TO REPAIR.

Lessor shall not be liable to Lessee for any damages, consequential or otherwise, by reason of inconvenience, annoyance, or loss of business arising from the necessity of Lessor's entering the premises for any purpose authorized in this lease, or for repairing the premises or any portion of the Building, however the necessity may occur. If Lessor is prevented or delayed from making any repairs, alterations, or improvements, furnishing services, or performing any covenant under this lease, by reason of any cause reasonably beyond Lessor's control, Lessor shall not be liable for, nor shall same give rise to a claim in Lessee's favor that such failure constitutes actual or constructive, total or partial, eviction from the premises.

12. DAMAGES.

In no event shall either party ever be liable to the other party for any indirect or consequential damages suffered by Lessee or Lessor from any cause whatsoever.

13. SUBLEASE.

Lessee shall not have the right to sublease the premises, in whole or in part, without the written approval of Lessor, which approval shall not be unreasonably withheld. Lessor, however, at its sole option, may elect to terminate this lease as of the date the proposed sublease would have commenced, rather than consent to sublease. In no case shall sublease or such lease termination be authorized on less than thirty-day written notice by Lessee. Notwithstanding the above, Lessee shall have the right to sublease the premises to an affiliated company without obtaining Lesssor's approval; however, in the event of an assignment of any kind, Lessee's liability to Lessor under this Lease shall remain unchanged.

14. INDEMNIFICATION.

The Lessee agrees to defend with counsel to save the Lessor harmless and indemnified from any loss, claim or damage to any person or property if not due to the negligence of the Lessor, and to any person or property incurred in the said area, by reason of any neglect or fault of the Lessee or employees of the Lessee.

15. ACCESS.

The Lessee agrees to permit the Lessor or the Lessor's agent to examine the premises at reasonable times, and if the Lessor shall so elect, at the expense of the Lessee to remove any alterations, additions, signs, awnings, aerials, or flag poles, or the like, not consented to in writing according to the terms

of the lease, and to show the Premises at any reasonable time to prospective purchasers and tenants and to keep affixed to any suitable part of the Premises during the twelve months preceding the expiration of the term appropriate notices for letting or selling.

16. SUBORDINATION.

The Lessee hereby agrees that its rights under this lease are subordinate to any mortgage now on the demised premises, and also shall be subordinate to any and all mortgages hereafter placed from time to time on said premises and the Lessee further agrees to execute any and all documents relating to said subordination, to be recorded in the applicable Registry of Deeds, when requested to do so by the Lessor. Notwithstanding, Lessee shall have the right of quiet enjoyment and possession of the Premises.

17. DAMAGE AND DESTRUCTION.

a) If, during the term of this lease, the Building shall become a "total loss" (defined to be the loss of 50% or more of the leased Premises) on account of fire or any other cause whatsoever, similar or dissimilar (any such fire or other cause being sometimes hereinafter called an "occurrence"), either Lessor or Lessee may, by written notice to the other within thirty (30) days after such occurrence, terminate the term of this lease, in which event the lease shall terminate on the fifth (5th) day after the giving of such notice, and rent and other payments due hereunder shall be prorated, to such termination date.

In the event of such termination, Lessor shall be entitled to receive out of any insurance proceeds payable on account of such total loss, an amount equal to the fair market value of the Building just prior to such total loss, and Lessee shall be entitled to retain any balance.

b) If in the event of the above mentioned loss this lease shall not be terminated as aforesaid, or if the Building or any other improvements on, at, in or appurtenant to the Premises, or used in connection with the operation of the Building, are partially destroyed or damaged, Lessor shall, if the insurance proceeds, are sufficient for the purpose, restore, repair, replace, rebuild, modify or alter the same, as promptly as practicable after such occurrence, in such manner so as to enable the continued usage of the Premises and the Building as contemplated by the provisions of this lease and so that the fair market value of the improvements on the Premises after such work is completed is at least equal to the fair market value of the improvements on the Premises immediately prior to the occurrence. Lessee shall in no event have any obligation whatsoever to repair, replace, restore, rebuild or alter. During the period of restoration there shall be a pro rata reduction in the rent equal to the percentage of the square footage of the Premise so damaged or destroyed. In no event, however, shall Lessee be relieved during any period of restoration of the responsibility of paying the full amount of any other payments required to be made pursuant to this lease.

c) Except as provided in subparagraphs a) or b) above, no destruction of or damage to the Premises or Building, or any part thereof, however caused, shall permit Lessee to surrender this lease or shall relieve Lessee from its liability to pay the full rent and other charges payable under this lease or from any of its other obligations under this lease.

18. EMINENT DOMAIN.

If after the execution of this lease the whole or any part of the demised premises, or the whole or any part of the Building, shall be taken under the power of eminent domain or by purchase in lieu thereof by any public, quasi-public or private authority, or condemned as unlawful, or suffer any damage which shall entitle Lessor to make a claim for injury to the Premises, direct or consequential, all herein referred to as "Taking," then this lease shall, at the election of Lessor by written notice to Lessee, be terminated. If after the execution of this lease, there shall be a taking:

A. as a result of which the aggregate of all reductions in the floor area of the demised premises resulting from all such takings since the date of this lease shall equal or exceed twenty-five percent (25%) or more of the original floor area of the demised premises; or

B. as a result of which the Building shall be permanently deprived of access by motor vehicle to and from a public street, or private way, then, and in either of such cases, Lessee shall have the right at its election to terminate this lease by giving Lessor notice of its election within thirty (30) days after such

taking.

19. DEFAULT-BANKRUPTCY.

A. In the event

(1) the Lessee fails to pay any rent due hereunder, including additional rent, within ten (10) days after the same shall be due,

(2) the Lessee fails to perform any other of the terms, conditions or covenants of this lease to be observed or performed by Lessee for more than thirty (30) days after written notice of such default shall be given to Lessee,

(3) the Lessee shall have declared bankruptcy or insolvency or filed any debtor proceedings or shall take or have taken against Lessee in any court, pursuant to any statute either of the United States or of any State, a petition in bankruptcy or insolvency or for reorganization or for the appointment of a receiver or trustee of all or any part of Lessee's property

(4) the Lessee makes an assignment for the benefit of creditors or petitions for or enters into an arrangement, or if Lessee shall abandon the demised premises or suffer this lease to be taken under any writ of execution, then Lessor, in addition to any and all other rights or remedies it may have, shall have the immediate right of re-entry and may remove all persons and property from the demised premises, and such property may be removed and stored in a public warehouse or elsewhere at the cost of and for the account of Lessee, all without service of notice or resort to legal process and all without being deemed guilty of

trespass or becoming liable for any loss which may be occasioned thereby.

B. Should Lessor elect to re-enter as herein provided or should it take possession pursuant to legal proceedings or pursuant to any notice provided for by law, it may either terminate this lease or may from time to time without terminating this lease make such alterations and repairs as may be necessary to relet the demised premises, and relet said demised premises or any part thereof for such term or terms and at such rental or rentals and upon such other terms and conditions as Lessor in its reasonable discretion deems advisable. Upon each such reletting all rentals received by the Lessor from such reletting shall be applied in the order set forth following:

(1) To the payment of any indebtedness other than rent due hereunder from Lessee to Lessor.

(2) To the payment of any costs and expenses of such reletting including brokerage fees, attorneys' fees and costs of such alterations and repairs.

(3) To the payment of rent due and unpaid hereunder.

(4) The balance, if any, shall be held by Lessor and applied in payment of future rents or expenses if the same may become due and payable in accordance with the order set forth above.

If such rentals received from such reletting during any month shall be less than the amount to be paid during that month by Lessee pursuant to this lease, then Lessee shall pay to Lessor any such deficiency, said deficiency to be calculated and paid

monthly. No such re-entry or taking possession of the demised premises by Lessor shall be construed as an election on its part to terminate this lease unless a written notice of such intention shall be given to Lessee or unless the termination of this lease shall be decreed by a court of competent jurisdiction.

C. Notwithstanding any such reletting without termination, Lessor may at any time thereafter elect to terminate this lease for such previous breach. Should Lessor at any time terminate this lease for any breach, in addition to any other remedies it may have, it may recover from Lessee all damages it may incur by reason of such breach, including the cost of recovering the demised premises, and including the worth at the time of such termination of the excess, if any, of the amount of rent, including additional rent, reserved in this lease for the remainder of the stated term over the then reasonable rental value of the leased premises for the remainder of said stated term, all of which amounts shall be immediately due and payable by Lessee or Lessor.

20. WAIVER.

Failure on the part of Lessor or Lessee to complain of any action or non-action on the part of the other, no matter how long the same may continue, shall never be a waiver by Lessee or Lessor, respectively, of any of the other's rights hereunder. No payment by Lessee, or acceptance by Lessor, of a lesser amount than shall be due from Lessee to Lessor shall be treated otherwise than as a payment on account. The acceptance by Lessor of a check for a lesser amount with an endorsement or statement

thereon, or upon any letter accompanying such check, that such lesser amount is payment in full, shall be given no effect, and Lessor may accept such check without prejudice to any other rights or remedies which Lessor may have against Lessee.

21. COVENANT.

Lessee, subject to the terms and provisions of this Lease on payment of the rent and observing, keeping and performing all of the terms and provisions of this Lease on Lessee's part to be observed, kept and performed, shall lawfully, peaceably and quietly have, hold, occupy and enjoy the Premises during the Term. The foregoing covenant of quiet enjoyment is in lieu of any other covenant, express or implied; and it is understood and agreed that this covenant and any and all other covenants of Lessor contained in this Lease shall be binding upon Lessor and its successors only with respect to breaches occurring during Lessor's and Lessee's successors' respective ownership. Further, Lessee specifically agrees to look solely to Lessor's then equity interest in the Building at the time owned for recovery of any judgment from Lessor; it being specifically agreed that neither Lessor (original or successor), nor any beneficiary of any Trust of which any person holding Lessor's interest is Trustee, shall ever be personally liable for any such judgment, or for the payment of any monetary obligation to Lessee.

22. SURRENDER

At the termination of the lease, the Lessee shall peacefully yield up the demised premises and all additions thereto in good order, repair and condition, first removing all goods and effects except those of the Lessor and leaving the premises clean and

tenantable, excepting, however, reasonable wear and tear and damage resulting from fire or any other casualty and damage not caused by the negligence of the Lessee, its agents, employees, invitees or licensees. All fixtures, machinery, and equipment used for the operation of the real estate premises, excluding the trade fixtures and equipment referred to in Paragraph 8 (e) above, which may at any time be brought upon or installed in the premises by the Lessee shall be deemed to be and remain the property of the Lessor and may not be removed without the written approval of Lessor.

23. AMENDMENTS.

If in connection with obtaining financing for the Building or Complex, a bank, insurance company, pension trust or other institutional lender shall request reasonable modifications in this Lease as a condition to such financing, Lessee will not unreasonably withhold, delay or condition its consent thereto, provided that such modifications do not increase the monetary obligations of Lessee hereunder or materially adversely affect the leasehold interest hereby created.

24. GOVERNING LAW.

It is agreed by both parties that this lease is to be governed by and construed according to the laws of the Commonwealth of Massachusetts.

25. SEVERABILITY.

In the event that any part of this lease shall be determined to be invalid, such invalidity shall not void the whole lease and the remaining provisions shall continue to be valid and binding.

26. HAZARDOUS WASTE.

Lessee shall use and occupy the premises for permitted uses only and shall not permit the disposal of any hazardous waste or hazardous substances on the premises and shall reimburse the Lessor for any and all expenses or damages incurred for Lessee's failure to observe this covenant. Lessee understands that its liability under this Article continues and survives the termination or expiration of this Lease term.

27. NOTICE.

Any notice, request or demand under this lease to or from the Lessor or the Lessee shall be in writing and shall be given by certified or registered mail, postage prepaid and shall be deemed given three days following the day of mailing, and shall be addressed

To the Lessor: c/o Mico Realty
62 Massachusetts Avenue
Lexington, Massachusetts 02173

or such other address as the Lessor may in writing furnish the Lessee.

To the Lessee: c/o Treasurer
Amicon Corporation
25 Hartwell Avenue
Lexington, Massachusetts 02173


or such other address as the Lessee may in writing furnish the Lessor.

8. SUCCESSORS.

This agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto.

9. FIRST MONTH'S RENT.

Lessor hereby acknowledges payment herewith of the first

month's rent of \$: 3.00. 

30. OPTION 7E18503.00

Lessee, having at all times faithfully performed all of the terms and conditions of the Lease and not having received more than five written notices of default from Lessor during the initial term and not at the time of exercise of the option being in default, shall have two individual options for three (3) years each, to renew this Lease under the same terms and conditions of this Lease except for rent, adjustments to rent, including without limitation operation costs and insurance, and additional rent due to taxes clauses, and except for this option.

- a. The rent for each option period only shall be based on the fair market rent value for the premises determined by two licensed Massachusetts realtors, one selected by the Lessor and one selected by the Lessee. If the two realtors cannot agree as to the market rental factor, the two realtors shall choose a third licensed Massachusetts realtor, and the majority opinion of said realtors shall determine the market rental factor. In any event, the rent shall not be less than the rent for the preceding term increased by the increase in the Consumer Price Index/All Urban Consumers (and if said Consumer Price Index/All Urban Consumer does not exist, the Engineering News Records Building Cost Index (BCI) shall be used; and if neither index exists, then the existing Consumer Price Index shall be used) with a base of December, 1983, as increased as of the option commencement date. The rent for each option period as determined above shall be fixed for the three year period of each option.

b. If, for any reason whatsoever, Lessee has not in fact renewed this Lease in accordance with the above provisions of this Article, this option shall expire and Lessee shall have no further right to renew its tenancy beyond the expiration date. In this event, Lessor shall be free to rent the Premises to whomever it chooses, on any terms it chooses, free and clear of this option.

Executed as a sealed instrument in two or more counterparts each of which shall be deemed to be an original.

IN WITNESS WHEREOF, the said parties to this instrument herein set their hands and seals.

C&D/BILLERICA TRUST

By: [Signature]
Trustee

By: [Signature]
Trustee

AMICON CORPORATION

By: [Signature] VP FINANCE

COMMONWEALTH OF MASSACHUSETTS

Amicon Corporation
25 Hartwell Avenue
Lexington, Massachusetts 02173

Re: C&D/Billerica Trust Lease dated
for 9 Linnell Circle, Billerica, Massachusetts

The current rent structure includes the total cost of improvements according to the preliminary plans entitled "Amicon Linnell Circle, Billerica Massachusetts dated December 5, 1983 Lessor C&D Billerica Associates" (Plans consisting of floor plan DWGA 1, A2, E1, E2, E3, H1, P1).

The rent add on for the improvements is calculated as follows:
 $\$130,350.00 \times 28.55\%$ (the constant to amortize at 15% for five (5) years) =
 $\$37,215.00$ and further divided by 22,300 = \$1.67 per square foot.

The December 12, 1983 quotation from Mico Realty Corp. states that if there are any increases or decreases in the cost of the lessees improvements evidenced by change orders signed by lessee then the final rent amounts will be adjusted.

Currently the amount of \$130,350 does not reflect what will be a \$1,500 charge for interior office electrical work which is currently designated on the plans referenced above.

LESSOR

C&D/BILLERICA TRUST

BY: [Signature]

Trustee

[Signature]
Trustee

LESSEE

AMICON CORPORATION

BY: [Signature]

Amicon Corporation
25 Hartwell Avenue
Lexington, Massachusetts 02173

Re: C&D/Billerica Trust Lease dated

The parties to the above-referenced Lease hereby agree
as follows:

In the event the Lessee exercises its right under the
first option to renew and the Lessor and Lessee have through
the agreed procedure obtained a market rent for the premises
during the first option period, Lessee shall be entitled to
a \$1,583.33 credit per month toward the monthly rent payment
for each and every month during the 3-year option. Notwith-
standing the above, the rent shall not be less than \$10.82 per
square foot for a total rent of \$241,286.00 annually.

LESSOR

C&D/BILLERICA TRUST

BY: [Signature]
Trustee

[Signature]
Trustee

LESSEE

AMICON CORPORATION

By: [Signature]